

Listing of Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Original) A test system including a generator for generating an agile frequency test signal for testing a test radio where the test radio has specifications for operating in a communications system comprising,
 - 4 a signal component source for providing signal components including test parameters and including a test sequence and test symbols derived from radio transmissions of the communications system,
 - 7 a signal generator for digitally processing the test sequence, the test symbols and test parameters to form an agile test signal,
 - 9 a transmitter for transmitting the test signal to the test radio.
1. 2. (Original) The system of Claim 1 wherein the test system extracts the signal components from the transmission of a transmitting radio for the communications system.
1. 3. (Original) The system of Claim 2 wherein the transmitting radio is the test radio.
1. 4. (Original) The system of Claim 2 wherein the transmitting radio is different from the test radio and wherein the test radio has the same specifications as the test radio.
1. 5. (Original) The system of Claim 1 wherein the component source includes a memory for storing digital values of the signal components.
1. 6. (Original) The system of Claim 1 wherein the test sequence is a hopping sequence and the test radio is a frequency hopping radio.

- 1 7. (Original) The system of Claim 6 wherein signal hop frequencies and message symbols are
2 extracted from the transmission of a transmitting radio for the communications system.

- 1 8. (Original) The system of Claim 1 where the test signal is generated as an analog signal with
2 a digital to analog converter.

- 1 9. (Original) The system of Claim 8 where the analog signal is up-converted to a higher
2 frequency for transmission to the test radio.

- 1 10. (Original) The system of Claim 1 where the test radio is monitored to determine performance
2 in response to the agile test signal.

- 1 11. (Original) The system of Claim 1 where the test signal is transmitted by a transmit antenna to
2 a receive antenna of the test radio.

- 1 12. (Original) The system of Claim 1 where the test signal is transmitted by a transmit wired
2 connection to a receive wired connection of the test radio.

- 1 13. (Original) The system of Claim 1 where interference signals are added to the test signal.

- 1 14. (Original) The system of Claim 1 where noise is added to the test signal.

- 1 15. (Original) The system of Claim 1 where a signal amplitude of the test signal is faded.

1 16. (First Amended) The system of Claim 1 A test system including a generator for generating
2 an agile frequency test signal for testing a test radio where the test radio has specifications
3 for operating in a communications system and wherein said test radio is a frequency hop
4 radio comprising,

5 a signal component source for providing signal components including test
6 parameters and including a test sequence and test symbols derived from radio
7 transmissions of the communications system,

8 a signal generator for digitally processing the test sequence, the test symbols and test
9 parameters to form an agile test signal and where said test signal is generated
10 with a set of specified signal parameter values, a sequence of hop frequencies
11 and message symbols that produce a known output from the test radio when the
12 test radio is operating properly,

13 a transmitter for transmitting the test signal to the test radio.

1 17. (Original) The system of Claim 16 wherein the component source extracts the signal
2 components from the transmission of a transmitting radio for the communications system.

1 18. (Original) The system of Claim 16 wherein the transmitting radio is the test radio.

1 19. (Original) The system of Claim 16 wherein the transmitting radio is different from the test
2 radio and wherein the test radio has the same specifications as the test radio.

1 20. (Original) The system of Claim 16 wherein the component source includes a memory for
2 storing digital values for the signal components.

1 21. (Original) The system of Claim 16 wherein the test sequence is a hopping sequence and the
2 test radio is a frequency hopping radio.

- 1 22. (Original) The system of Claim 16 where signal hop frequencies and message symbols are
2 extracted from the transmission of a transmitting radio for the communications system.

- 1 23. (Original) The system of Claim 16 where the test signal is generated as an analog signal with
2 a digital to analog converter.

- 1 24. (Original) The system of Claim 23 where the analog signal is up-converted to a higher
2 frequency for transmission to the test radio.

- 1 25. (Original) The system of Claim 16 where the test radio is monitored to determine
2 performance in response to the agile test signal.

- 1 26. (Original) The system of Claim 16 where the test signal is transmitted by a transmit antenna
2 to a receive antenna of the test radio.

- 1 27. (Original) The system of Claim 16 where the test signal is transmitted by a transmit wired
2 connection to a receive wired connection of the test radio.

- 1 28. (Original) The system of Claim 16 where interference signals are added to the test signal.

- 1 29. (Original) The system of Claim 16 where noise is added to the test signal.

- 1 30. (Original) The system of Claim 16 where a signal amplitude of the test signal is faded.

1 31. (Original) A test system including a generator for generating an agile frequency test signal
2 for testing a test radio where the test radio has specifications for operating in a
3 communications system comprising,
4 a receiver for receiving a frequency hopping radio input signal transmitted in the
5 communications system, said input signal having segments at different
6 hopping frequencies and different hopping times,
7 a broadband processor for processing said input signal to determine signal
8 components, and for each segment,
9 determining from the input signal a hopping time of the segment,
10 determining from the input signal a frequency of the segment, and
11 determining signal parameters,
12 a signal component memory for storing said signal components including a test
13 sequence, test symbols and test parameters,
14 a signal generator for digitally processing the test sequence, the test symbols and test
15 parameters to form an agile test signal,
16 a transmitter for transmitting the test signal to the test radio.

1 32. (Original) The system of Claim 31 where said processor extracts message symbols from said
2 input signal.

1 33. (Original) The system of Claim 32 where the message symbols are extracted from each hop.

1 34. (Original) The system of Claim 31 where said processor extracts a carrier frequency from
2 each hop

1 35. (Original) The system of Claim 31 where the test signal from said signal generator is
2 processed with a digital to analog converter to form an analog test signal.

- 1 36. (Original) The system of Claim 35 where the analog signal is up converted to a higher
- 2 frequency for transmission to the test radio.

- 1 37. (Original) The system of Claim 31 where the test radio is monitored to determine
- 2 performance in response to the test signal.

- 1 38. (Original) The system of Claim 37 where the test radio performance is determined by an
- 2 operator manually.

- 1 39. (Original) The system of Claim 37 where the test radio performance is determined with an
- 2 automated system.

- 1 40. (Original) The system of Claim 31 where interference signals are added to the test signal.

- 1 41. (Original) The system of Claim 31 where noise is added to the test signal.

- 1 42. (Original) The system of Claim 31 where a signal amplitude of the test signal is faded.